

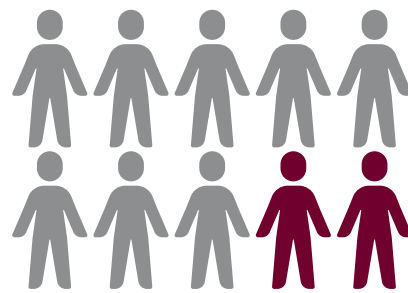
Predictive Analytics

The predictive analytic model uses the University of Montana's historical student data to predict a student's likelihood to persist to the next semester. Pre-enrollment data, demographic information, and academic progress and performance metrics are data points which influence a student's predicted support level. An advisor's notes or information from ODE, TRIO, etc., do not influence a student's predicted support level.

RISKS

Predictive analytics (PA) carry risks advisors need to be aware of:

- Inappropriate data use
- Implicit and/or overt bias
- Stereotype Threat for students
- Individual data points can create dramatic shifts in predicted support levels



Connecting students to resources supports their persistence to graduation

BENEFITS

PA data provide advisors with supplementary information to create individualized advising experiences by:

- Enabling appropriate campus resource referrals
- Helping advisors quickly identify students who may require elevated levels of support
- Supporting students in making timely educational decisions
- Alerting students to academic progress milestones

Recommendation 1: Viewing PA as a Tool

PA is a tool to help advisors identify students who may need additional support throughout their college experience. Advisors can use these analytics to prepare for potential conversations with students. This tool should not replace or supersede advisors' professional knowledge of their student populations.

Recommendation 2: Support Advising Best Practices

PA uses historical data from the University of Montana, which is not intended to represent the entirety of students' individual journeys. Each student's unique experiences, drive, ambitions, history, culture, and resources also influence their persistence. It is not telling the information but provides information based on students with comparable backgrounds.

Be mindful of what can and cannot be included in student notes. Personal issues may not be appropriate to include and are not factored into PA which can alter predicted support levels.

Recommendation 3: Prevent Stereotype Threat

While meeting with students, be mindful of the data on your computer screen. Refrain from sharing data or having conversations with students deterring them from particular paths based on what the "data indicates" alone. Stereotype Threat is a serious concern with PA. Students may not understand that their predicted support-level data originates from students comparable to them. If a student does see the data or ask about it, have a conversation with them about how the predicted support level is created and how advisors use it for student success.

Recommendation 4: Prepare Resources for Advisors

Advisors need the appropriate tools and resources to support students demonstrating elevated predicted support levels. As an advising office, create templates for "psychologically attuned" messaging to share with students and define how PA can be (and is) used for student success. Discussion of how PA relates to student success helps create clear goals and boundaries for those using the tool. Campus-wide discussions should be held about the benefits and risks of PA, and all student-facing employees should be encouraged to engage in professional development opportunities that support ethical PA use.

Resource Page

Practical Uses of Recommendations:

Scenario #1: Generating a list of students for a targeted communication about tutoring sessions.

In this scenario, you need to be mindful of the threat of stereotypes. Treating any group of students the same based on a set of criteria is risky even when you do not use a metric based on predictive analytics.

How to mitigate risk: When generating a list of students, combine the PA metric with a performance-based metric such as GPA, course grades, or Navigate alerts for "In Danger of Failing". Also, always assume a good percentage of the students in any student list you have are not actually the population in need of the communication or action and compose your message with that in mind.

Scenario #2: Meeting 1-on-1 with a student where a PA metric indicates that a student may need a higher support level.

In this scenario, be aware that predictive analytics is a tool to help you prepare for the conversation with students. It may help to turn around the framing of what predictive analytics is meant to do. Rather than think of the student as at-risk, consider that the safety nets in our society and institutions are at risk of missing some populations of students. A PA metric gives you a chance to be doubly sure that the safety net is working the way it should.

How to mitigate risk: When coming across a PA metric that flags a student as needing high support, take a few extra moments to dig into all the other details that you have about the student to see if they are on track.

Bias Resource Materials:

- [Harvard Implicit Bias Tests](#)
- [Implicit Bias Training from the Kirwan Institute](#)
- [Implicit Bias Training from LinkedIn Learning](#)
- [Colleges are using big data to track students in an effort to boost graduation rates, but it comes at a cost](#) from the Hechinger Report

Stereotype Threat and Imposter Phenomenon:

- [A Threat in the Air: How Stereotypes shape Intellectual Identity and Performance](#) by Claude Steele
- [Imposter Phenomenon resource](#) from Brown University

"Psychologically Attuned" Letters:

- [Research Brief: Academic Probation and the Role of Notification Letters](#). Data on why universities should use "psychologically attuned" messaging
- EdX course: ["How You Say It Matters: A Toolkit for Improving Communications About Academic Standing."](#)

Other UM Learning Opportunities:

- [Mental Health Training- Kognito](#)
- ["How to Help A Student Of Concern: A Guide for Faculty and Staff"](#) by UM Behavioral Intervention Team
- [Academic Advising Certificate](#): Critical Advising Practices for Equity Course, and others

EAB Navigate:

- [Student Success Predictive Model](#)
- [Predicted Influencers](#)